

REMARKS

Claims 1-2 and 5-11 are pending in the application. Claims 8-11 were withdrawn from consideration. Claims 3-4 have been cancelled. The Specification and claim 1 is herein amended.

Objection to Specification

The disclosure is objected to under 37 CFR 1.71 for alleged grammatical errors.

The specification has been revised and a substitute specification is submitted herewith. Thus, this objection should be withdrawn.

Rejection under 35 USC §112, Second Paragraph

Claims 3 and 4 were rejected under 35 USC §112, second paragraph, as being indefinite because claims 3 and 4 recite the phrase “said alloy materials” which is considered to refer back to the coating material of claim 1 which has a weld area composition and a non-weld area composition.

Claims 3-4 have been cancelled. Thus, this rejection is now moot.

Rejections under 35 USC §103(a)

Claims 1-6 were rejected under 35 USC §103(a) as being obvious over Ogawa et al. (JP 07-060481) in view of Tour (U.S. Patent No. 2,875,043).

The Examiner alleged as follows:

Ogawa et al. teach a welding material used in the welding of high chromium steels for power boilers (considered to be a base material, which may be in the

form of plates or tubes, paragraphs 0001, 0002, & 0041 and figure 1). The weld material contains nickel at 18-30% by weight and 23-28% chromium by weight, which is considered to be an alloy of 41 to 58% total nickel and chromium (paragraphs 0011, 0024, 0025), and which overlaps the presently claimed nickel and chromium content of greater than one half the alloy material. Further one of ordinary skill in the art at the time of the invention would have found it obvious to adjust the nickel content to prevent high temperature embrittlement. Cracks in boilers lead to operational failures of the boiler system, and higher amounts of nickel prevent cracking in elevated temperature use, therefore one of ordinary skill in the art at the time of the invention would have found it obvious to select a nickel in the upper end of the disclosed range to prevent cracks and subsequent failure of the boiler.

Ogawa et al. do not appear to explicitly teach the steel parts to have a nickel-chromium coating, however Tour teaches a spray-weld alloy containing 16 to 18% by weight chromium and with the balance nickel, where the alloy contains 3.5 to 4.5% by weight silicon and 2.75 to 3.75% by weight boron (col. 2 lines 41-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to coat the steel boiler parts of Ogawa et al. with the sprayweld alloy of Tour in order to improve corrosion resistance and prevent cracking due to temperature variations (col. 2 lines 6-16).

(Office Action, page 4, line 4 to last line).

Thus, Ogawa et al. discloses a welding material while Tour discloses a spray-weld alloy.

However, present claim 1 recites “An alloy coated boiler part for welding, comprising, **before the welding**: a base material body, and a coating which coats the base material body.” Claim 1 further recites that the coating includes (1) “**a weld-area coating** composed of said alloy material in which B is 0.1% or less and Si is 0.5% or less said weld portion coating being positioned at an end portion subjected to welding and the vicinity thereof,” and (2) “**a non-weld-area coating** composed of said alloy material of composition in which contents of B and Si are in the range of 1 to 5% respectively.”

The alloy coated boiler part of the present invention has a coating structure including two different coatings. Neither Ogawa et al. nor Tour discusses such a coating structure. The Examiner further alleged as follows:

With regard to the composition, thickness, and width of the weld areas, it is noted that when the nickel-chromium coated steel parts are subjected to welding using the welding material of Ogawa et al. **the weld area will have** a silicon and boron composition as it is comprised of the welding material (0.01% by weight or less boron and 0.03 to 0.1% by weight silicon, paragraph 0011) while the area outside the weld (considered to be the non-weld area) will have a nickel chromium composition consistent with the coating of Tour (3.5 to 4.5% by weight silicon and 2.75 to 3.75% by weight boron, col. 2 lines 41-45). The relative thickness of the weld areas and the distance the weld area covers will depend on the thickness of the parts being welded. It would have been obvious to one of ordinary skill in the art the time of the invention to adjust the size of the weld based on the thickness of the sheets being welded. Welding of thicker parts requires wider deeper welds also resulting in a thicker weld bead, and thinner parts would not require as large of a weld leading to a smaller weld area and thinner weld bead. By making the appropriate adjustments to the weld the size for a particular part the width and thickness of the weld area will vary, and therefore absent criticality in the width of the weld area and the thickness thereof, the weld area as presently claimed are not considered to be patentably distinct from the weld area arrived at by Ogawa et al. in view of Tour as shown above.

(Office Action, page 5, lines 1-16). Here, the Examiner discusses welded area **after the welding**. There is no reason for a person of ordinary skill in the art to make the alloy coated boiler part for welding **before the welding** with a coating structure including two different coatings.

For at least these reasons, claim 1 patentably distinguishes over Ogawa et al. and Tour. Claims 2-6, depending from claim 1, also patentably distinguish over Ogawa et al. and Tour for at least the same reasons.

Claim 7 was rejected under 35 USC §103(a) as being obvious over Ogawa et al. (JP 07-060481) in view of Tour (U.S. Patent No. 2,875,043) as applied to claims 1 and 2 above, further in view of Cochrane et al. (US Patent No. 6,055,943)

Claim 7, depending from claim 1, also patentably distinguishes over Ogawa et al. and Tour for at least the same reasons. Cochrane et al. has been cited for allegedly disclosing a boiler with a series of interconnected tubes forming a notch at one end. However, such disclosure of Cochrane et al. does not remedy the deficiencies of Ogawa et al. and Tour discussed above.

For at least these reasons, claim 7 patentably distinguishes over Ogawa et al., Tour and Cochrane et al.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP

/SADAO KINASHI/

Sadao Kinashi
Attorney for Applicants
Registration No. 48,075
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

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Attachment: Substitute Specification